

FIVE NEW SPECIES OF MEXICAN ERIGERON  
(ASTERACEAE)

GUY L. NESOM

Department of Biology, Memphis State University,  
Memphis, TN 38152

ABSTRACT

Five new species of *Erigeron* from northern México are described—*E. unguiphyllus*, *E. cuatrocienegensis*, *E. wellsii*, *E. stanfordii*, and *E. solisaltator*. The first two are probably obligate gypsophiles; the second two are from the region of Peña Nevada in southeastern Nuevo León and west-central Tamaulipas; the last is from northeastern Chihuahua; all are narrow endemics. A new name, *E. gypsoverus*, is proposed for a previously described gypsophilic *Erigeron*.

Continuing studies of *Erigeron* have brought to light five new species. Two of them grow in the region to be covered by the Chihuahuan Desert Flora, currently in preparation by M. C. Johnston and J. Henrickson. Two of these (from Coahuila and from San Luis Potosí) appear to be gypsophilic and are discussed with relation to other known *Erigeron* gypsophiles from northern Mexico. Two others apparently are restricted to the relatively small area of Peña Nevada in west-central Tamaulipas and southeastern Nuevo León and join a number of other endemics known from there. The distributions of the new species, as well as of several of their possible close relatives, are mapped in Fig. 1. A new name is proposed for a previously described species that may be related to the new gypsophiles.

***Erigeron wellsii* Nesom, sp. nov.**

*Erigeron scaposus* DC. affinis aliquantum, differt praecipue rhizomate crasso fibris aliquantum carnosus, foliis caulinis non-amplexantibus, et corollis radii ligulis latioribus non circinatis ad maturitatem (Fig. 2A).

Perennials with long and thick fibrous roots, from a thick, often horizontal rhizome 0.5–4.0 cm long; caudex simple, producing 1–3 (–4) upright, monocephalous stems. Stems 15–31 cm tall, simple, moderately pubescent with retrorse, closely to loosely appressed or sometimes spreading, extremely thin, twisted trichomes 0.8–2.2 mm long. Basal leaves in a persistent rosette, 1.8–6.5 cm long, blades 0.8–2.8 cm wide, obovate, with 2–5 pairs of crenate to crenate-serrate teeth, attenuate to petiole that is  $\frac{1}{4}$ – $\frac{1}{3}$  as long as leaf, with base usually purplish; cauline leaves 6–10, alternate, sessile, not clasping, sharply

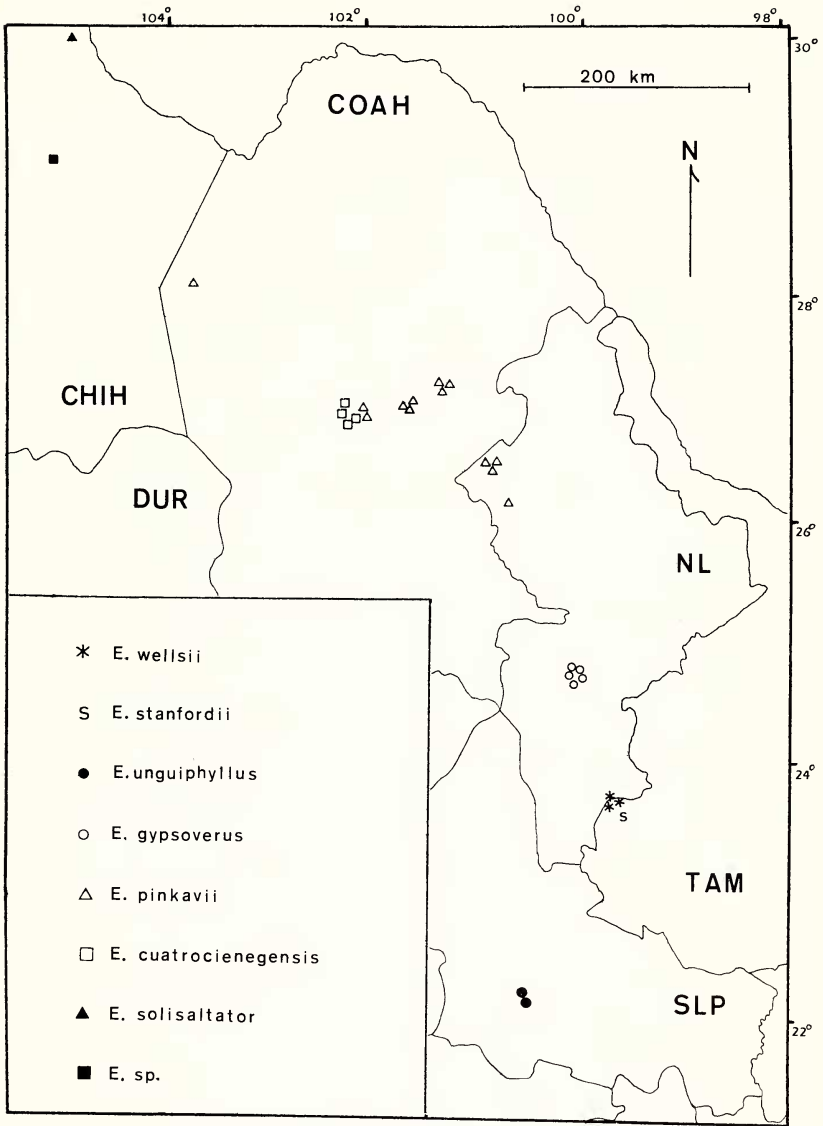
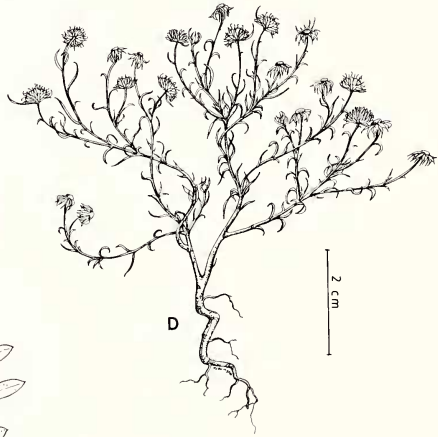
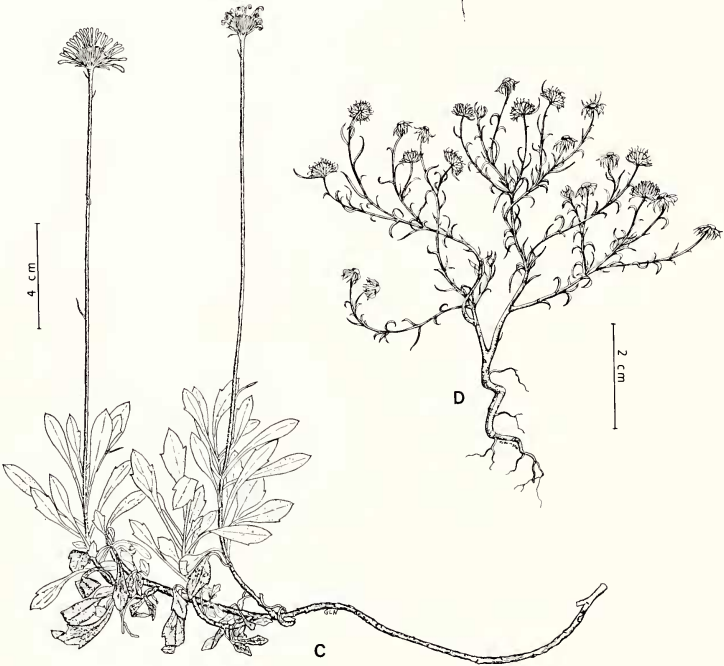
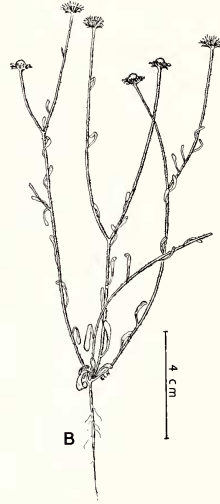
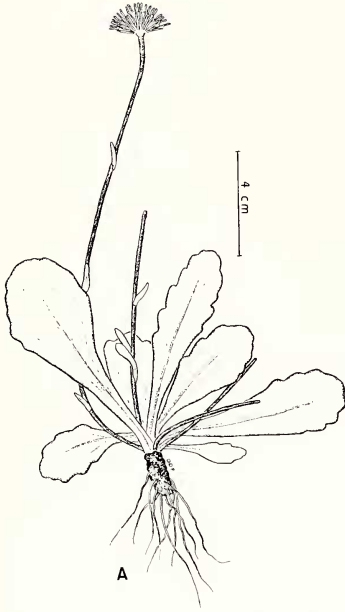


FIG. 1. Distribution of *Erigeron* species in northeastern Mexico.

reduced in size upward, the lower narrowly oblong to oblanceolate, to 23 mm long and 4 mm wide, the upper linear bracts; leaves moderately pubescent with erect to ascending trichomes, margins eciliate. Heads 1-3(-4) on peduncles 17-85 mm long; involucre hemispheric,



14–19 mm wide (pressed); phyllaries in 3–4 equal to unequal series, probably reflexing after release of achenes, lanceolate to elliptic-lanceolate, often purplish, inner 7.2–9.5 mm long, 0.8–1.2 mm wide, when unequal outermost  $\frac{1}{2}$ – $\frac{3}{4}$  as long as inner, evenly thin or sometimes with 2 lateral thickenings near base, sparsely pubescent with thin trichomes; receptacles not observed. Ray flowers 70–135 in 2–3 series, corollas white with broad lilac midstripe, drying white to completely lilac, 10.5–14.0 mm long, 0.9–1.5 mm wide, not reflexing or curling with maturity. Disc corollas tubular to narrowly funnellform, constricted in lower  $\frac{1}{4}$ – $\frac{1}{3}$ , not indurated, 3.5–4.5 mm long; style branches 0.7–0.9 mm long, including the shallowly triangular to shallowly deltate collecting appendages 0.1–0.3 mm long. Achenes 2.0–2.2 mm long, 0.8 mm wide, with 2 thin, orange ribs, sparsely strigose; carpodium 5–8 cells high; pappus of ray and disc achenes similar, of (20–)25–30 very slender bristles ca.  $\frac{5}{6}$  the disc corolla height but somewhat unequal in length, simple or rarely with a few short and inconspicuous outer setae.

TYPE: México, Tamaulipas, in mountains with steep cliffs, 10 km above and w. of Miquihuana, in meadows with pines present, 3110 m, 4 Aug 1941, *L. S. Stanford, K. L. Retherford, and R. D. Northcraft 631* (Holotype: NY!; isotypes: GH!, MO!, OS!).

PARATYPES: Nuevo León: rare, growing in deep moss on ne. slope of Picacho Onofre, 150 m below the summit, ca. 3300 m, small opening in pine woods, Cerro Peña Nevada, ca. 30 km ene. of Doctor Arroyo, 1 Aug 1977, *Nesom R590* with C. Wells (LL, MEXU); in open pine forest, occasional, Peña Nevada, 42 km (26 mi) ne. of Doctor Arroyo, w. side of mt. known locally as Picacho Onofre, 3300 m, 4 Jul 1959, *Beaman 2705* (MSC, US); Tamaulipas, Cerro Peña Nevada, limestone derived soils, exposed open areas, 1 Jun 1974, *Patterson 1518* (LL).

The isotype at MO bears the label data given above, but it is presented on a "correction label". The sheets at GH, NY, and OS have the same collection number, but the locality data are "4 km w. of Miquihuana on limestone ridges in open pine forest". *Erigeron wellsii* was tentatively recognized as an undescribed species by I. M. Johnston, who distributed type sheets as "*E. retherfordii* sp. nov.". However, the herbarium name was never validated by publication. A number of other unvalidated names on collections made by Stanford et al. and distributed by Johnston as "types" also have been found: *Acacia*

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FIG. 2. Habit sketches of four new *Erigeron* species. A. *Erigeron wellsii* Nesom. Isotype (MO). B. *Erigeron solisaltator* Nesom. Holotype (LL). C. *Erigeron stanfordii* I. M. Johnston ex Nesom. Holotype (GH). D. *Erigeron unguiphyllus* Nesom. *Hartman and Funk 4098* (OS).

*trium*, *Sphaeralcea oxyloba*, *Mentzelia retherfordii*, *Erigeron jimulcans* (= *Erigeron commixtus* Greene), *Erigeron northcraftii* (= *Erigeron pubescens* HBK.), and *Erigeron stanfordii*. The name applied here to the Peña Nevada *Erigeron* recognizes Christopher J. Wells, who is currently a graduate student in botany at Mississippi State University.

The monocephalous stems with very thin, retrorse trichomes, basal rosette with reduced cauline leaves, thin phyllaries, and simple pappus are characters that *Erigeron wellsii* has in common with forms of the *E. scaposus* DC.–*E. longipes* DC. complex. However, the following features of the new species distinguish it from all plants of that complex to which it might appear similar: short, thick rhizome with long, thick, fibrous roots; non-clasping cauline leaves, and relatively broad rays that do not curl upon wilting or maturity. *Erigeron palmeri* A. Gray grows sympatrically with *E. wellsii* and has a similar growth habit, but the former has glabrous or glabrate leaves and stems, leaves with finely serrate or merely mucronulate, ciliate margins, and long petioles. Though plants of *E. palmeri* also are fibrous-rooted, they lack rhizomes.

Pollen grains from several plants of *Erigeron wellsii* average 25  $\mu\text{m}$  in diameter with a range of 22–28  $\mu\text{m}$ . Stainability in cotton blue averages 90 percent; micrograins are uncommon. The relatively large, stainable grains and the presence of micrograins suggest that these plants may be tetraploid.

***Erigeron stanfordii* I. M. Johnston ex Nesom, sp. nov.**

Herbae perennes affinitatis obscurae, rhizomata tenuia, caules monocephales, patenti-pubescentes dense, pars supra caulis fere scaposa, folia strigosa dense et paginis inferis griseo-viridis, phyllaria linearitriangularia in 4–6 series aequilongas (Fig. 2C).

Perennials from a long, thin, horizontal rhizome; upright caudex branches 0.5–9.0 cm long, produced at short intervals, bare except for dead leaves or petiole bases. Stems 18–24 cm tall, produced singly at tips of caudex branches, simple or with 1–3 short branches on lower  $\frac{1}{3}$ , moderately pubescent with thin, spreading trichomes 0.1–0.6(–0.9) mm long. Leaves on lower  $\frac{1}{4}$ – $\frac{1}{3}$  of stem, 20–45 mm long, blades 5–9 mm wide, elliptic to elliptic-ob lanceolate, entire or with 1–3 shallow, serrate teeth, attenuate to petiole  $\frac{1}{3}$ – $\frac{1}{2}$  as long as leaf, not clasping, gray-green below, darker green above, moderately to densely pubescent with ascending trichomes, usually more densely below and often nearly pilose, margins eciliate. Heads solitary, peduncles 15–18 cm long with 1–4 linear bracts 3–14 mm long; involucre hemispheric, 10–13 mm wide (pressed); phyllaries in 4–6 imbricated series, reflexing after release of achenes, linear-lanceolate, stramineous with a dark midline, inner 6.0–8.0 mm long, 0.3–0.4 mm wide, mostly glabrous,

outer densely pubescent with vitreous, spreading trichomes, densely and minutely granular-glandular; receptacles shallowly convex. Ray flowers 45–76 in 1–2 series, corollas drying white, lilac-tinged, or yellowish, 11.0–12.7 mm long, 1.5–1.8 mm wide, sometimes curling with maturity. Disc flowers narrowly funnelform, barely or not constricted in lower  $\frac{1}{4}$ , 4.0–5.0 mm long; style branches 0.8–0.9 mm long, including the shallowly triangular to shallowly deltate collecting appendages 0.1 mm long. Achenes ca. 2.0 mm long and 0.4 mm wide, with 2 thin, orange ribs, sparsely strigose; carpopodium 5–8 cells high; pappus of ray and disc achenes similar, of 15–21 slender bristles  $\frac{4}{5}$  the disc corolla height, with a few, inconspicuous, outer setae 0.1–0.3 mm high.

TYPE: México, Tamaulipas, in hills 19 km se. of Miquihuana on road to Palmillas in narrow, deep, and moist arroyo, 2250 m, 11 Aug 1941, L. S. Stanford, K. L. Retherford, and R. D. Northcraft 838 (Holotype: GH!; isotypes: MO!, NY!, OS!).

I. M. Johnston's name is validated here to commemorate L. S. Stanford, who led collecting trips in 1941 and 1949 to northeastern Mexico. *Erigeron stanfordii* is a very distinctive taxon, but the direction of its affinities within the genus is not clear. It is known only from the type collection, and along with *Erigeron wellsii*, is endemic to the region of Peña Nevada. The most distinctive characters of *E. stanfordii* are the following: slender, creeping rhizomes bearing upright stems; clustered, undifferentiated basal and lower cauline leaves, gray-green and densely pubescent below; peduncles long, leafless, densely pubescent with thin, spreading trichomes, bearing solitary heads; phyllaries very narrowly lanceolate, in 4–6 imbricated series, inner straw-colored with a very conspicuous, narrow, greenish-brown midline. Judging from the relatively large size of the pollen grains, averaging (18–)22(–24)  $\mu\text{m}$  in diameter, and high stainability (98 percent), the plants are probably sexual tetraploids.

### ***Erigeron unguiphyllus* Nesom, sp. nov.**

Habitu *Erigeron gypsoverus* Nesom, sed distinctus phyllariis glandulosis pubescenta patenti, radiis parvioribus numerosibus, pappo setarum pauciorum (Fig. 2D).

Perennials with a woody taproot, highly branched at base from a relatively thick caudex region, producing a low, compact cluster of wiry, crowded-appearing, branched stems. Stems 5–9 cm tall, erect or ascending, moderately pubescent with loosely appressed to ascending or mixed spreading-ascending-appressed trichomes 0.2–0.5 mm long, spreading just under the heads, abundantly but inconspicuously granular-glandular. Basal leaves absent at flowering, cauline 2.5–5.5 mm long, 0.4–0.6 mm wide, not reduced in size upwards except for occasional peduncular bracts, sessile, margins entire, eciliate, apices



apiculate with a distinctive cap of indurated tissue. Heads numerous on peduncles 1–17 mm long; involucre shallowly hemispheric, 3.5–5.0 mm wide (pressed); phyllaries in 2–3 unequal to imbricated series, reflexing after release of achenes, lanceolate to elliptic-lanceolate, yellowish with a brown midregion, inner 2.1–3.0 mm long, 0.5–0.8 mm wide, sparsely to moderately pubescent with spreading trichomes, moderately to densely punctate-glandular; receptacles shallowly to steeply convex. Ray flowers 60–110 in 2–3 series, corollas white, 2.5–3.9 mm long, 0.2–0.5 mm wide, not curling or reflexing. Disc corollas tubular, slightly constricted in lower  $\frac{1}{5}$ , slightly indurated just above, 1.5–2.1 mm long; style branches 0.3–0.4 mm long, including the triangular to deltate collecting appendages 0.1–0.2 mm long. Achenes 0.8–1.0 mm long, 0.2–0.3 mm wide, with 2 thin ribs, sparsely strigose; carpodium 3–7 cells high; pappus of ray and disc achenes similar, of 6–9 bristles  $\frac{3}{5}$ – $\frac{4}{5}$  the disc corolla height, with a conspicuous outer series of setae, squamellae, or scales 0.3–0.8 mm high.  $n = 9$ .

TYPE: México, San Luis Potosí, Minas de San Rafael, Jul 1911, C. A. Purpus 5020 (Holotype: US!; isotypes: F, GH 2 sheets!, MEXU!, MO 2 sheets!, NY 2 sheets!, UC!, US!). The number for this collection in Purpus' notebooks at UC is 5120, although the sheets were distributed as 5020.

PARATYPES: San Luis Potosí: common on barren, gypseous (?) soil, Hwy 70, 9.6 km (6 mi) e. of Río Verde, 14 Aug 1976, *Hartman and Funk 4098*—voucher for chromosome count,  $n = 9$  (ENCB, LL, MEXU, OS, RM); 10 km al e. de Río Verde, sobre el camino a Boquilla, 1000 m, 20 Jan 1959, *Rzedowski 9547* (ENCB); ca. 4 km al n. de Río Verde, sobre el camino a Pastora, 1000 m, 21 Jan 1959, *Rzedowski 9568* (ENCB); ca. 15 km al n. de Río Verde, sobre el camino a Pastora, 1000 m, 21 Jan 1959, *Rzedowski 9588* (ENCB).

*Erigeron unguiphyllus* is characterized by: a perennial, low, compact habit with wiry stems and tiny, linear leaves that are usually somewhat curved and terminated by a conspicuous, indurated apiculum or mucro; loosely ascending stem pubescence of short hairs; 2–3 series of unequal phyllaries that are spreading-pubescent and minutely punctate- or viscid-glandular; numerous and relatively short ray flowers; and a conspicuously double pappus of 6–9 fragile bristles and an outer series of short setae or scales. The diploid chromosome count of  $n = 9$  was made from several cells at diakinesis; meiosis and tetrad formation were regular. Pollen grains are even-sized, averaging about  $17.5 \mu\text{m}$  in diameter and staining 99 percent in cotton blue.

According to Sousa (1969), Purpus collected several times during 1919 and 1911 at Minas de San Rafael (or Minas de San Rafael y Huascama). These mines are located in the vicinity of Río Verde just south of Huascama— $22^{\circ}13'N$ ,  $100^{\circ}15'W$ , about 96 km due east of San Luis Potosí. *Erigeron unguiphyllus* joins a number of other new species first collected by Purpus in this immediate vicinity. The di-

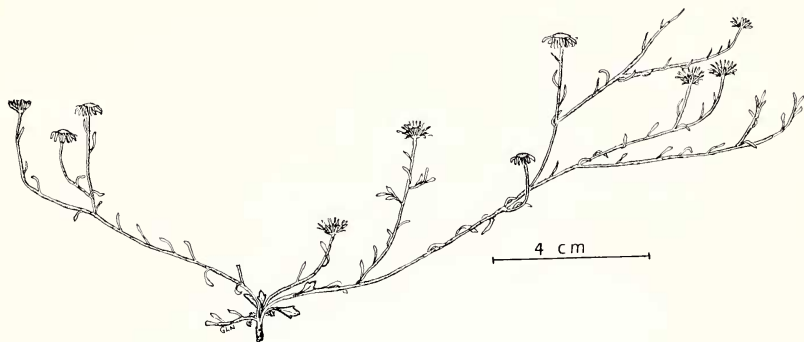


FIG. 3. Habit sketch of *Erigeron cuatrocieneensis* Nesom. Holotype (ASU).

minutive growth habit of these plants and their resemblance in habit to other known gypsophilic *Erigeron* species suggest that the mines are associated with gypsum outcrops.

***Erigeron cuatrocieneensis* Nesom, sp. nov.**

Habitu *Erigeron pinkavii* Turner affinis, differt imprimis pubescentia brevissima appressa caulium et phyllarorum, foliis caulinis inferioribus ecliatis, radiis paucioribus, et pappo setarum plus numerosarum (Fig. 3).

Perennials from a woody taproot, producing up to 4 stems at the base from a simple caudex, or the caudex with several very short axes, each bearing erect stems. Stems 6–21 cm high, erect or ascending, simple or usually few-branched, stems and leaves densely strigose with antrorsely appressed, short (0.1–0.6 mm), white trichomes. Basal leaves deciduous after early flowering, ca. 10–18 mm long, blades 1–3 mm wide, entire or with 1–2 pairs of shallow serrations, gradually narrowed to petiolar region; cauline becoming entire, linear, and sessile on upper  $\frac{2}{3}$  of stem. Heads terminal on peduncles 3–30 mm long, involucre shallowly hemispheric, 5–7 mm wide (pressed); phyllaries in 3 imbricated series, reflexing after release of achenes, innermost widely oblanceolate, 0.6–0.8 mm wide, 2.7–3.0 mm long, with narrow scarious margins, outermost narrower and ca.  $\frac{1}{2}$  as long as inner, moderately to densely pubescent with loosely appressed, white trichomes; receptacles slightly convex. Ray flowers 30–55 in 1–2 series, corollas white, sometimes drying lavender-tinged, 4.4–7.1 mm long, 0.6–0.9 mm wide, not curling or reflexing with maturity. Disc corollas tubular, constricted in lower  $\frac{1}{5}$ , somewhat indurated above, 1.8–2.3 mm long; style branches 0.4 mm long, including the triangular to deltate collecting appendages 0.2 mm long. Achenes 1.0–1.2 mm long, 0.3–0.4 mm wide, with 2(3) thin ribs, sparsely strigose; carpopodium



1–3 cells high; pappus of ray and disc achenes similar, of 18–27 bristles  $\frac{2}{3}$ – $\frac{5}{6}$  the disc corolla height, usually with a few, inconspicuous, outer setae up to 0.3 mm high.

TYPE: México, Coahuila, Poso de Antejo (ca. 12 km wsw. of Cuatro Ciénegas), 12 Jun 1968, *E. Lehto, D. J. Keil, and D. J. Pinkava 5511* (Holotype: ASU!).

PARATYPES: Coahuila, desert scrub and bajada, near cave, ne.-facing slope near tip of Sierra de San Marcos, 21 Mar 1972, *Pinkava 10503* (ASU); nw. of Laguna Churince, (ca. 17 km sw. of Cuatro Ciénegas), 13 Aug 1967, *Cole et al. 3766* (ASU); Laguna Chiqueros complex of lakes and streams w. of stabilized dunes of Poso de la Becerra, ca. 16 km (10 mi) sw. of Cuatro Ciénegas, 14 Aug 1967, *Cole et al. 3849* (ASU).

All collections of *Erigeron cuatrocienegensis* have been made within about a 17 km distance wsw. to ssw. of Cuatro Ciénegas (Fig. 1). This narrow endemic is probably an obligate gypsophile, although the occurrence of a gypseous substrate is not mentioned in the collection data. From this immediate locality five other narrowly endemic, gypsophilic Asteraceae of other genera are known, as well as an endemic *Phacelia* (see Atwood and Pinkava, 1977).

*Erigeron pinkavii*, another narrowly endemic gypsophile, also grows in the Cuatro Ciénegas area and has a growth habit similar to that of *E. cuatrocienegensis*, although this is probably a convergent adaptive complex of characters. Dissimilarities in other characters suggest that their closest relationships are probably not with each other. Their geographic ranges appear to be parapatric or weakly allopatric (Fig. 1); *Erigeron pinkavii* has been collected mostly to the n., ne., and e. of Cuatro Ciénegas. The spreading stem and phyllary pubescence, ciliate leaves, 60–90 ray flowers, and the double pappus of 7–11 bristles and a conspicuous outer series of setae or scales are characters of *E. pinkavii* that mark it as clearly distinct from *E. cuatrocienegensis*.

Judging from the small and even-sized pollen grains, averaging about 18.5  $\mu\text{m}$  in diameter, with a stainability of greater than 99 percent, plants of *Erigeron cuatrocienegensis* are probably diploid. Powell and Powell (1977) reported that *E. pinkavii* is also diploid, and their data suggest that among gypsophilic Asteraceae of the Chihuahuan Desert, diploids are more numerous than polyploids.

Besides *Erigeron pinkavii* and the two new gypsophiles described in this paper, still another gypsophilous, narrowly endemic *Erigeron* has been described from northeastern Mexico, *E. gypsophilus* Turner (Turner, 1975). However, *E. \times gypsophilus* Beauverd (Beauverd, 1930) holds priority over the 1975 binomial; thus, the plants from south-central Nuevo León are given a new name: **Erigeron gypsoverus** Nesom, nom. nov.—based on *Erigeron gypsophilus* Turner, *Wrightia* 5:118. 1975. A chromosome count from a recent collection shows this species to be diploid with  $n = 9$  (*Nesom R1008*: LL, MEXU).

All four of these gypsophilic endemics apparently are diploid, all have very restricted ranges in northern Mexico (Fig. 1); but each is strongly differentiated morphologically, and the nature of their interrelationships is not clear. Of great interest would be a knowledge of whether they form a natural group, reflecting a gypsophilous tendency in the ancestral stock from which they radiated, as in examples from several other genera discussed by Turner and Powell (1979), or whether each has independently attained its gypsophily.

From northeastern Chihuahua a collection has been made (Fig. 1) of several plants (*Chiang, Wendt, and Johnston 9851B*, LL) that are very similar to *Erigeron gypsoverus* in growth habit. In addition, the label data indicate that they were growing "above 'Los Morteros' gypsum mine . . . (in) calcareous (and slightly gypseous?) gravel". However, these plants have more herbaceous bases and a pubescence of thicker, widely spreading or ascending below, trichomes on the stems, leaves, and phyllaries. They also have tiny heads with few rays and narrowly oblanceolate, entire leaves, and they produce abortive pollen, indicating that they are probably polyploid. Although these plants are distinctively different from all of the other four known gypsophiles, their probable polyploidy and similarity to some forms in the variable *E. modestus* agamic complex bid circumspection before giving them a formal taxonomic circumscription. Further collections and observations may show that they warrant recognition as a distinctive species.

***Erigeron solisaltator* Nesom, sp. nov.**

A *Erigeron coronarius* Greene affinis, differt phyllariis erectis ad maturitatem receptaculis conicis, et corollis radii ligulis angustis non reflexis ad maturitatem (Fig. 2B).

Annuals from a very slender taproot, producing 1–4 upright stems from a simple caudex. Stems 12–15 cm tall, few-branched near the middle; moderately pubescent with spreading or ascending, whitish trichomes 0.1–0.7 mm long, obscurely granular-glandular. Basal leaves mostly deciduous by flowering, 5–12 mm long, blades obovate to oblanceolate, 2–4 mm wide, entire or shallowly few-toothed, attenuate to narrow petiole ca.  $\frac{1}{2}$  as long as leaf; cauline leaves oblanceolate to linear-oblanceolate, sessile to subsessile, entire, lower 6–15 mm long, 2–3 mm wide, gradually reduced in size upwards to linear bracts. Heads few, solitary, peduncles 5–35 mm long, involucre shallowly hemispheric, 5–6 mm wide (pressed); phyllaries in 3 subequal series, remaining erect after release of achenes, oblanceolate, with wide, light or scarious margins, inner 2.8–4.2 mm long, 0.6–0.8 mm wide, outermost  $\frac{1}{2}$ – $\frac{1}{3}$  as long as inner, sparsely pubescent with white, spreading trichomes, densely granular-glandular; receptacles hemispheric to very steeply convex. Ray flowers 85–120 in 1–2 series, not reflexing with maturation, corollas white, drying with lavender tips, 3.7–5.5

mm long, 0.2–0.4 mm wide. Disc corollas tubular to narrowly funnelform, constricted in lower  $\frac{1}{5}$ , indurated and inflated above, 1.8–2.1 mm long; style branches 0.4 mm long, including the shallowly to very shallowly triangular collecting appendages 0.1–0.2 mm long. Achenes 0.9–1.0 mm long, 0.5 mm wide, with 2 thin ribs, sparsely strigose; carpopodium 5–8 cells high; pappus of ray and disc achenes similar, of 8–9 persistent bristles, with an outer laciniate corona or series of scales ca. 0.2 mm high.

TYPE: México, Chihuahua, zacatal, *Prosopis glandulosa*, *Koerberlinia spinosa*, and *Hilaria mutica*, fine-textured, calcareous alluvium in flat (bottom of bolson), 1185 m, 0.5 km s. of Rancho El Llano, 14 Jun 1973, M. C. Johnston, T. Wendt, and F. Chiang 11317F (Holotype: LL!).

*Erigeron solisaltator* has many similarities with the taxa known as *Achaetogeron linearifolius* Watson and *Achaetogeron ascendens* Greenman and with *Erigeron coronarius* Greene (Nesom, 1980). It differs from the first two in its annual duration and in its normal complement of persistent pappus bristles, from the third in having non-reflexing phyllaries, and from all three in having hemispheric receptacles and non-reflexing ligules. The location and habitat of *E. solisaltator* are also distinctive and different from any of its probable relatives. The single known collection was made in northeastern Chihuahua near the Rio Grande (Fig. 1) in the shrubby vegetation of a small, undrained basin. The epithet means “sun-dancer”.

#### ACKNOWLEDGMENTS

I thank curators of the following herbaria, from which collections were borrowed or studied: ASU, GH, LL, MO, MSC, NY, OS, TEX, UC, and US. Thanks also to Tod Stuessy and John Strother for checking type collections at F and UC and to Don Pinkava for information on distributions within the Cuatro Ciénegas Basin. Ron Hartman and Vicki Funk furnished buds for the chromosome count of *Erigeron unguiphyllus*. The comments of the editor, John Strother, and Jim Henrickson were of essential assistance in readying the manuscript, and taxonomic advice from Bob Wilbur is appreciated.

#### LITERATURE CITED

- ATWOOD, N. D. and D. J. PINKAVA. 1977. A new gypsophilous species of *Phacelia* (Hydrophyllaceae) from Coahuila, Mexico. *Madroño* 24:212–214.
- BEAUVERD, G. 1930. Polymorphisme de quelques plantes du Massif de la Vanoise (Savoie). *Bull. Soc. Bot. Geneve. Ser. II.* 22:439–464.
- NESOM, G. L. 1980. A revision of the epappose species of *Erigeron* (Asteraceae–Astereae). Ph.D. dissertation, Univ. North Carolina, Chapel Hill.
- POWELL, A. M. and S. A. POWELL. 1977. Chromosome numbers of gypsophilic plant species of the Chihuahuan desert. *Sida* 7:80–90.
- SOSA SANCHEZ, M. 1969. Las colecciones botánicas de C. A. Purpus en México. Periodo 1898–1925. *Univ. California Publ. Bot.* 51:ix + 1–36.
- TURNER, B. L. 1975. Two new gypsophilic species of *Erigeron* (Asteraceae) from northern Mexico. *Wrightia* 5:116–119.

TURNER, B. L. and A. M. POWELL. 1979. Deserts, gypsum and endemism. *In* J. R. Goodin and D. K. Northington, eds., *Arid Land Plant Resources*, p. 96-116. Proc. Int. Arid Lands Conf. Pl. Res., Texas Tech. Univ., Lubbock.

(Received 28 Dec 1979; revision received 18 Dec 1980; accepted 7 Jan 1981.)